

REMARKS

The Non-Final Office Action mailed August 17, 2010, has been received and reviewed. Prior to the present communication, claims 1-24 were pending in the subject application. All claims stand rejected. Each of claims 1-13, 15-18, 21, and 23-24 has been amended herein. Claims 14, 19-20, and 22 have been cancelled and claims 25-31 have been added for consideration. As such, claims 1-13, 15-18, 21, and 23-31 remain pending. It is submitted that no new matter has been added by way of the present amendments. Reconsideration of the subject application is respectfully requested in view of the above amendments and the following remarks.

Claim Objections

Claims 4-11 and 16-22 were objected to as being in improper multi-dependent claim form. Applicants have amended claims 4-11 and 16-22 to remove the multi-dependencies. Accordingly, Applicants respectfully submit that claims 4-11 and 16-22 are in proper form and request withdrawal of the objection to the claims.

Rejections under 35 U.S.C. § 112

Claims 1 and 2 stand rejected under 35 U.S.C. § 112, first paragraph, as ostensibly not being enabling of an image processing means as claimed in claim 1. Claims 1-3 also, stand rejected under 34 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants have amended independent claim 1 to more clearly recite an “image processor” as suggested by the Office. As such, Applicants respectfully submit that independent claim 1 and claim 2 that depends therefrom are enabled by Applicants’ Specification. *See Applicants’ Specification* at least at Abstract. Applicants also submit that independent claim 1

and claims 2-3 that depend therefrom particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Accordingly, Applicants request withdrawal of the 35 U.S.C. § 112 rejections of claims 1-2 and 1-3.

Rejections under 35 U.S.C. § 102 over Dickson

Claims 23 and 24 stand rejected under 35 U.S.C. § 102(b) as ostensibly being anticipated by “Mosaic generation for Under Vehicle Inspection” to Dickson et al. (hereinafter Dickson). Claims 23 and 24 depend either directly or indirectly from amended independent claim 12, discussed below. As Dickson does not describe each and every element of amended independent claim 12, Applicants respectfully submit that Dickson cannot describe each and every element of claims 23 and 24 that depend therefrom. Applicants thus respectfully submit that Dickson fails to describe, either expressly or inherently, each and every element of these claims for at least the below-cited reasons. Withdrawal of the 35 U.S.C. § 102(b) rejection of claims 23-24 is respectfully requested.

Rejections under 35 U.S.C. § 103 over Frantz in view of Kumar

Claims 1-3, 12, 13, and 14 were rejected under 35 U.S.C. § 103(a) as ostensibly being unpatentable over U.S. Publication No. 2003/0185340 to Frantz (hereinafter Frantz) in view of U.S. Patent No. 6,173,087 to Kumar et al. (hereinafter Kumar). Applicants submit that claim 14 has been canceled herein and as such the rejection thereof is rendered moot. As a *prima facie* case of obviousness cannot be established for the rejected claims based upon the asserted references, whether alone or in combination, Applicants respectfully overcome the rejection, as hereinafter set forth.

Independent Claim 1

Independent claim 1, as currently amended, recites “cameras in peripheral portions of the array being angled outward compared with cameras toward the center, said perspective correction being performed to correct for the different camera angles for construction of said mosaic image.” *See Applicants’ Specification at ¶¶ [0064], [0086]-[0089], and Fig 2.*

Applicants submit that Frantz describes a vehicle undercarriage inspection system with a low-cost, portable and highly-mobile imaging bar (or “speed bump”) which incorporates a plurality of electronic cameras, illumination devices and range finders. *Frantz ¶ [0020].* The dimensions of the imaging bar are to be slightly longer than the average width of a car or truck to be inspected, but not longer than the width of an ordinary lane of traffic. *Id.* at ¶ [0067]. The cameras are arranged with a spacing between cameras such that overlap α “alpha” of their fields of view is achieved at a distance similar to the intended ground-to-chassis clearance of the vehicle to be inspected. *Id.* at ¶ [0069]. Frantz does not teach or suggest cameras being angled outward or employing a perspective correction to correct for different camera angles, as recited by amended independent claim 1.

Kumar is cited by the Office in support of Frantz. Applicants respectfully submit that Kumar fails to cure the deficiencies of Frantz described above. Kumar provides a system and process for multi-image alignment that does not rely on the measurements of a reference image being distortion free, but instead all images are modeled as intensity measurements represented in their respective coordinate systems and motion parameters are computed to warp all input images to a virtual image mosaic. *Kumar col. 2, lines. 22-32.* Kumar does not teach or suggest an array of cameras having cameras in peripheral portions of the array being angled outward and performing perspective correction to correct for different camera angles, as recited

by amended independent claim 1. Kumar does describe correcting for lens distortion but, such is a correction required as a result of the camera lens itself not the direction in which the camera is aimed.

Independent Claim 12

Independent claim 12, as currently amended, recites features similar to those described above for amended independent claim 1, such as “mosaicing together the n frames from each camera into a single mosaiced image, characterized in that cameras in peripheral portions of the array are angled outward compared with cameras toward the center, the perspective correction in said step (d) being performed so as to correct the different camera angles prior to construction of said mosaiced image.” As such, the remarks provided above for amended independent claim 1 apply equally to amended independent claim 12.

Accordingly, it is respectfully submitted that a *prima facie* case of obviousness cannot be established for claims 1-3, 12, and 13 in view of Frantz and Kumar, either alone or in combination. As such, Applicants submit that amended independent claims 1 and 12 are patentable over Frantz in view of Kumar. Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of amended independent claims 1 and 12. Amended independent claims 1 and 12 are believed to be in condition for allowance and such favorable action is hereby respectfully requested.

Claims 2-3 and 13 depend, either directly or indirectly, from one of amended independent claims 1 and 12. Applicants thus respectfully submit that a *prima facie* case of obviousness cannot be established for these claims in view of Frantz and Kumar, either alone or in combination, for at least the above-cited reasons. Applicants respectfully submit that dependent claims 2-3 and 13 are patentable over Frantz in view of Kumar and request

withdrawal of the 35 U.S.C. § 103(a) rejection thereof. Claims 2-3 and 13 are believed to be in condition for allowance and such favorable action is hereby respectfully requested.

Claims 4-11, 15-18, 21, and new claims 25-31 depend either directly or indirectly from one of amended independent claims 1 and 12. Accordingly, Applicants respectfully submit that these claims are also patentable over Dickson, Frantz, and Kumar either alone or in combination, for at least the reason of their dependency. Applicants respectfully request allowance of claims 4-11, 15-18, 21, and new claims 25-31.

CONCLUSION

For at least the reasons stated above, each of claims 1–13, 15–18, 21, and 23–31 is believed to be in condition for allowance. Applicants respectfully request withdrawal of the pending rejections and allowance of the claims. If any issues remain that would prevent issuance of this application, the Examiner is urged to contact the undersigned—by telephone at 816-559-2564 or via email at areed@shb.com (such communication via email is herein expressly granted)—to resolve the same prior to issuing a subsequent action.

Payment for a two-month extension of time is submitted herewith by way of electronic payment. It is believed that no other fees are due in conjunction with the present communication. However, if this belief is in error, the Commissioner is hereby authorized to charge any amount required to Deposit Account No. 19-2112, referencing attorney docket number FITP. 129685.

Respectfully submitted,

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